

Date: Tue, 8 Mar 94 04:30:45 PST
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #51
To: Ham-Space

Ham-Space Digest Tue, 8 Mar 94 Volume 94 : Issue 51

Today's Topics:

 2-Line Orbital Elements for Weather Satellites (\$WEA-9403.07)

 APT-Satellites: Report MAR 05, 1994

 Mir

 Satellite FAQ answers (long)

 SATNODE ???

 Shuttle Retransmissions

 STS-62 Element Set (94066.147)

 Two-Line Orbital Element Set: Space Shuttle

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>

Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 7 Mar 94 05:11:58 GMT
From: news-mail-gateway@ucsd.edu
Subject: 2-Line Orbital Elements for Weather Satellites (\$WEA-9403.07)
To: ham-space@ucsd.edu

SB KEPS @ AMSAT \$WEA-9403.07
2-Line Orbital Elements WEA-9403.07
HR LU7AKC ORBITAL ELEMENTS FOR WEATHER SATELLITES
BID: \$WEA-9403.07

DECODE THE 2-LINE ELEMENT SETS WITH

1 AAAAAU 00 0 0 BBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

DMSB B5B-04

1 05557U 71087 A 94046.08810487 0.00000101 64466-4 0 5676
2 05557 99.1302 271.2998 0054691 41.4940 319.0370 14.23237080157605

DMSB B5C-06

1 06275U 72089 A 94043.58145448 0.00000113 69459-4 0 6656
2 06275 98.6254 259.9974 0037230 261.6379 98.0581 14.22810055101034

DMSB B5D1-3

1 10820U 78042 A 94046.03932775 0.00000177 87583-4 0 3646
2 10820 98.6551 237.5422 0009797 10.8342 349.3042 14.28777806821413

DMSB B5D2-1

1 13736U 82118 A 94047.02963511 0.00000091 38806-4 0 3498
2 13736 098.6319 238.7353 0008727 354.9829 005.1796 14.25611469579540

DMSB B5D2-2

1 14506U 83113 A 94043.48306532 0.00000124 72424-4 0 8665
2 14506 98.3695 219.2545 0011903 179.0920 181.0280 14.23714656531376

DMSB B5D2-3

1 18123U 87053 A 94048.04427424 -.00000196 00000-0 0 3125
2 18123 098.7855 241.5003 0014058 162.1766 198.0438 14.15334286344013

DMSB B5D2-4

1 18822U 88006 A 94048.03168228 -.00000006 00000-0 0 4168
2 18822 098.4546 267.8701 0006544 339.4454 020.6971 14.22927426313439

DMSB B5D2-5

1 20978U 90105 A 94048.08845942 0.00000231 82900-4 0 5169
2 20978 098.6983 111.3429 0079724 157.6860 202.8333 14.32373273167914

DMSB B5D2-6

1 21798U 91082 A 94048.06239186 0.00000160 85084-4 0 1758
2 21798 098.9625 053.6274 0013310 119.4953 240.8130 14.13765141114642

GOES 2 R

1 10062U 77048 B 94044.91764046 0.00000181 25789-4 0 3676
2 10062 28.4191 2.3423 0761928 193.3964 164.5242 13.30796042807866

GOES 3 R

1 07735U 75027 B 94047.96577140 0.00000127 57362-4 0 3682
2 07735 114.9817 056.7234 0040715 192.4938 167.5052 14.21823840977478

GOES 6 R

1 14051U 83041 B 94045.17695222 0.00001914 20866-3 0 4885
2 14051 25.3429 352.7455 1352659 163.1101 201.9315 12.50792293485270

OKEAN 1

1 19274U 88056 A 94047.89924351 0.00000169 21204-4 0 8644
2 19274 082.5168 348.1892 0020890 047.4068 312.9544 14.82089035303260

OKEAN 1 R

1 19275U 88056 B 94045.85612777 0.00000252 32030-4 0 2629
2 19275 82.5170 358.4007 0023949 81.6804 278.7120 14.77324394302422

OKEAN 2

1 20510U 90018 A 94047.76877289 0.00000274 37783-4 0 2654
2 20510 082.5244 296.6799 0018240 222.0501 137.9960 14.78256509213873

OKEAN 2 R

1 20511U 90018 B 94040.18173672 0.00000159 20334-4 0 8639
2 20511 82.5266 307.6777 0017361 265.5410 94.3826 14.75088343212491

OKEAN 3

1 21397U 91039 A 94047.97346102 0.00000583 84183-4 0 9667
2 21397 082.5233 208.0021 0022170 292.7507 067.1947 14.76123763145772

OKEAN 3 D

1 21842U 91039 C 94045.84090004 0.00001263 16230-3 0 5651
2 21842 82.5239 206.1257 0020227 288.0675 71.8331 14.80306886145726

OKEAN 3 R

1 21398U 91039 B 94046.46287310 0.00000188 24614-4 0 6656
2 21398 82.5238 210.6962 0022507 306.4452 53.4677 14.74895009145479

TIROS 2

1 00063U 600PI1 94043.56348375 0.00000778 88819-4 0 4621
2 00063 48.5252 224.5938 0045749 248.3930 111.2115 14.96402064790822

TIROS 10 D

1 01440U 65051C 94044.63529445 0.00030785 48911-3 0 5292
2 01440 98.5290 290.2793 0023036 122.5668 237.7879 15.52987427536715

TIROS N

1 11060U 78096 A 94044.70090970 0.00000031 37948-4 0 8651
2 11060 98.6771 101.9352 0010101 261.4638 98.5392 14.15589441 5768

NOAA-9

1 15427U 84123 A 94061.01035146 -.00000010 00000-0 00000 0 0 7301
2 15427 099.0595 110.1740 0015036 161.5961 198.6262 14.13593205475201

NOAA-10

1 16969U 86073 A 94060.99970033 .00000206 00000-0 88281-4 0 6282
2 16969 098.5075 073.2639 0013002 284.1537 075.8728 14.24869344387340

MET-2/17

1 18820U 88005A 94046.33979358 .00000030 00000-0 12997-4 0 2628
2 18820 82.5401 5.5070 0016642 157.5160 202.6730 13.84706663305497

MET-3/2

1 19336U 88064A 94039.99790931 .00000051 00000-0 10000-3 0 2623
2 19336 82.5380 54.3969 0015730 222.0779 137.9138 13.16964807266383

NOAA-11

1 19531U 88089 A 94061.00386846 .00000354 00000-0 19022-3 0 5352
2 19531 099.1626 047.3332 0012104 074.4598 285.8484 14.12964394280081

MET-2/18

1 19851U 89018 A 94053.01405594 -.00000008 00000-0 00000 0 0 2631
2 19851 082.5171 235.7306 0014002 188.3029 171.8434 13.84356715251755

MET-3/3

1 20305U 89086 A 94052.02689974 .00000000 00000-0 99999-4 0 9894
2 20305 082.5516 350.2887 0006980 212.2401 147.8826 13.04401818207754

MET-2/19

1 20670U 90057A 94040.79306496 .00000024 00000-0 79036-5 0 7621
2 20670 82.5504 309.6649 0016176 139.0978 221.1403 13.84188455182995

FY-1/2

1 20788U 90081 A 94061.01586847 .00000377 00000-0 25065-3 0 9079
2 20788 098.8380 084.5670 0013935 308.8594 051.1838 14.01322350178699

MET-2/20

1 20826U 90086 A 94060.99109242 -.000000006 00000-0 00000 0 0 7776
2 20826 082.5222 231.2554 0013686 351.3644 008.7815 13.83573202172938

MET-3/4

1 21232U 91030A 94044.59202931 .000000051 00000-0 10000-3 0 6701
2 21232 82.5391 256.9674 0013673 130.9218 229.3059 13.16460015135098

NOAA-12

1 21263U 91032 A 94061.06053707 .000000214 00000-0 96445-4 0 9402
2 21263 098.6272 091.1459 0012968 186.5273 173.6274 14.22374247145306

MET-3/5

1 21655U 91056 A 94060.92535554 -.000000471 00000-0 99999-4 0 6828
2 21655 082.5586 192.4818 0013979 105.6381 254.6811 13.16827204122344

MET-2/21

1 22782U 93055 A 94061.07699856 .000000075 00000-0 68856-4 0 2771
2 22782 082.5414 291.3236 0022793 163.8377 196.4020 13.83001482025280

/EX

Date: Mon, 7 Mar 1994 10:36:51 GMT

From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!newsserver.jvnc.net!gmd.de!
peter.henne@gmd.de@network.ucsd.edu

Subject: APT-Satellites: Report MAR 05, 1994

To: ham-space@ucsd.edu

Observed at station 50.7 NLat, 7.1 ELon, MAR 05, 1994

NOAA-9: APT 137.62 *OFF*
NOAA-10: APT 137.50 *OFF*
NOAA-11: APT 137.62 On
NOAA-12: APT 137.50 On
Meteor 2-21: APT 137.40 *OFF*
Meteor 3-3: APT *OFF*
Meteor 3-5: APT 137.85 ON again
Meteor 3-6: APT 137.30 *OFF*

NOAA-9 is off due to VHF-conflict with NOAA-11 until
April 09, NOAA-10 is off due to VHF-conflict with NOAA-12
until March 13 (info from wxsat-mail-list (TBUS)).
Meteor 2-21 is off now, notice frequency-change from
137.85 to 137.40 MHz. Meteor 3-5 is active again, now
on 137.85 MHz, transmitting very good vis-images.

+-----+
|Peter Henne (peter.henne@gmd.de) |
| (henne@gmd.de) |
|German Nat.Research Center.f.Comp.Science |
|D-53754 St.AUGUSTIN, Germany |

+-----+

Date: Mon, 7 Mar 1994 15:35:07 GMT
From: catfish!cscsun!dtiller@uunet.uu.net
Subject: Mir
To: ham-space@ucsd.edu

Troyce (Troyce@bio.tamu.edu) wrote:

: According to the latest orbital data, the Mir should be orbiting almost
: directly overhead of me late Friday morning and only about 389 km in
: distance. Would I have any real chance of picking them up (if they're
: transmitting) using only a HT, or would I need a base rig and satellite
: antenna?

An HT should do the trick. I've heard MIR, DO-17, and STS-xx on my HT.
I even talked to the STS folk while I was watching them from the ground.
I told them that they'd just gone into the earth's shadow, and they wondered
how I knew. I told them that they make a pretty bright 'star' as they zip
along, and that I just saw them wink out!

--

David Tiller | Network Administrator | Voice: (804) 752-3710 |
dtiller@rmc.edu | Randolph-Macon College | Fax: (804) 752-7231 |
"Drunk, [Beowulf] slew | P.O. Box 5005 | ICBM: 37d 42' 43.75" N |
no hearth companions." | Ashland, Va 23005 | 77d 31' 32.19" W |

Date: 7 Mar 1994 08:03:38 -0500
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!news.intercon.com!digex.net!
digex.net!not-for-mail@network.ucsd.edu
Subject: Satellite FAQ answers (long)
To: ham-space@ucsd.edu

An addition to Stephen's amateur satellite FAQ: AMRAD-OSCAR 27
(AO-27) downlink is 436.8 MHZ (actually, its closer to
436.7975), not 436.9. Operating mode is presently analog FM voice at
either 0.5W or 2 W downlink transmit power. Uplink is 145.85 MHz,
analog FM voice. The satellite is in a schedule placing the amateur
payload in use during daytime passes over the Northern Hemisphere. Note
that this schedule can change WQxx WITHOUT NOTICE based on the requirements
of the "host" commercial EYESAT satellite's mission.

BTW, I've copied the article, and plan to use it for a satellite beginner's forum
we'll be holding in the Washington Area next month. And I'm glad that summary
I posted back in '93xxx '92 was useful!

73, Steve Greene, ka1lm@amsat.0xxxxxxxxxxxxxxxxx
ka1lm@amsat.org / sgreene@access.digex.net

(One of the'se days, I'll get a decent offline mailer!)

Date: 4 Mar 94 04:07:02 GMT
From: agate!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
wroth@ucbvax.berkeley.edu
Subject: SATNODE ???
To: ham-space@ucsd.edu

: John Heaton (John@jh.mcc.ac.uk) wrote:
: : I have been asked to look out for a program called SATNODE for the PC, which
: : acts as a gateway to the packet satellites and allows unattended operation
: : with automatic forwarding etc...

: : John, G1YYH

The program you're looking for was written by John Hansen, WA0PTV. I believe that he is on the internet at wa0ptv@amsat.org. I'm sure that he'd be glad to help you out.

If you drop him a line, tell him I said hello!

73's,
Wayne Roth
WA2N / 5.

--

wroth@netcom.com

Date: 7 Mar 1994 07:43 EDT
From: ihnp4.ucsd.edu!swrinde!gatech!europa.eng.gtefsd.com!paladin.american.edu!
zombie.ncsc.mil!cs.umd.edu!news.gsfc.nasa.gov!nssdca.gsfc.nasa.gov!
stocker@network.ucsd.edu
Subject: Shuttle Retransmissions
To: ham-space@ucsd.edu

As you may know GARC volunteers undertake to retransmit Shuttle Ground transmissions. Please note the following:

INTERESTED IN SHUTTLE TRANSMISSIONS

The Goddard Amateur Radio Club (GARC) invites interested people to tune in to Shuttle transmissions. As a public service to the Amateur radio community, the GARC retransmits space shuttle air-to-ground

communications. During the STS-62 mission, Amateur radio operators, shortwave listeners, and those individuals with scanners can listen to these communications on the following HF (single side band) and VHF frequencies:

3.860 MHz (lower sideband)
7.185 MHz (lower sideband)
14.295 MHz (upper sideband)
21.395 Mhz (upper sideband)
28.650 Mhz (upper sideband)

and

147.45 Mhz (FM) Local DC Metro Area

73 de N30XM

GARC PI Coordinator

Date: Mon, 7 Mar 1994 17:45:58 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!agate!overload.lbl.gov!dog.ee.lbl.gov!
newshub.nosc.mil!crash!telesoft!garym@network.ucsd.edu
Subject: STS-62 Element Set (94066.147)
To: ham-space@ucsd.edu

STS-62

1	23025U	94015A	94066.14730123	+.00010676	53415-5	38715-4	0	78
2	23025	39.0156	232.0339	0006278	300.7024	59.3165	15.90383526	426

Satellite: STS-62

Catalog number: 23025

Epoch time: 94066.14730123 (07 MAR 94 03:32:06.83 UTC)

Element set: GSFC-007

Inclination: 39.0156 deg

RA of node: 232.0339 deg Space Shuttle Flight STS-62

Eccentricity: 0.0006278 Keplerian Elements

Arg of perigee: 300.7024 deg

Mean anomaly: 59.3165 deg

Mean motion: 15.90383526 rev/day Semi-major Axis: 6679.3410 Km

Decay rate: 0.11E-03 rev/day*2 Apogee Alt: 305.15 Km

Epoch rev: 42 Perigee Alt: 296.76 Km

(for Shuttle Elements subscription info, email: listserv@alsys.com)

--

Gary Morris KK6YB
San Diego, CA, USA

Internet: elements-request@alsys.com
Phone: +1 619-457-2700

Date: Mon, 7 Mar 1994 18:52:28 MST
From: ihnp4.ucsd.edu!library.ucla.edu!news.mic.ucla.edu!unixg.ubc.ca!
nnntp.cs.ubc.ca!alberta!ve6mgs!usenet@network.ucsd.edu
Subject: Two-Line Orbital Element Set: Space Shuttle
To: ham-space@ucsd.edu

The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) *253-9767*, and are updated daily (when possible). Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current elements for the current shuttle mission are provided below. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity.

Element sets (also updated daily), shuttle elements, and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

STS 62

1 23025U 94015A 94066.25000000 .00000887 52937-5 80286-5 0 87
2 23025 39.0180 231.3591 0006533 300.5042 288.3809 15.90376542 426

--

Dr TS Kelso
tkelso@afit.af.mil

Assistant Professor of Space Operations
Air Force Institute of Technology

End of Ham-Space Digest V94 #51
